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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/670,856 | 09/25/2003 | Soon-Kyun Shin | SAM-0491 | 9738 |
| 7590 | 06/10/2004 | | EXAMINER | |
| Anthony P. Onelio, Jr. MILLS & ONELLO LLP Eleven Beacon Street, Suite 605 Boston, MA 02108 | | | LAM, TUAN THIEU | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2816 | |

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

10/670,856

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Applicant(s)

SHIN, SOON-KYUN

Examiner

Tuan T. Lam

Art Unit

2816

-- The MAILING DATE of this c mmunication appears n the cover she t with th corresp ndenc address --
Peri d f r R ply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 6, 7, 11, 12 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5-6 and 11-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, the recitation of “a fourth NMOS” (line 3), “a third node” (line 3), “a fourth PMOS” (line 6), “a fifth PMOS” (line 8), “fifth NMOS” (line 11) lacks proper antecedent basis. Correction is required.

In claim 6, the recitation of “a sixth PMOS” (line 3), “a fourth node” (line 4), “a seventh PMOS” (line 6), “an eighth PMOS” (line 10), “a sixth NMOS” (line 13), “seventh NMOS” (line 16) lacks proper antecedent basis. The recitation of “an eighth PMOS transistor having a gate connected between the fourth node and the input pad” is indefinite because it is misdescriptive. Figure 3 shows the eighth PMOS transistor as the transistor (P8), the gate of which is connected to the VDD. The gate of P8 is not connected between the fourth node and the input pad as recited. Correction is required.

Claim 11 is rejected for the same reasons as stated in claim 5.

Claim 12 is rejected for the same reasons as stated in claim 6.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Jung (USP 6,529,060). Figure 3 of Jung shows an input buffer comprising a pull up transistor (MP10), input pad (200), a control voltage (PU1), floating well voltage (VF1), a transmission (MN10) having a substrate voltage connected to ground (not shown), a buffer (300), a controller (140, 120, 160) generating the signal applied to input pad as the control voltage and the floating well when a high voltage is applied to the input pad (VF1 equals to Vpad when Vpad is higher than power supply (column 4, lines 35-45), control voltage PU1 equals to Vpad when Vpad is higher than power supply (column 4, lines 10-25), generating the ground voltage as the control voltage in the case where a voltage less than the high voltage is applied to the input pad, and generating the power supply voltage as the floating well voltage (control voltage PU1 equals to ground when voltage at the pad is less than power supply (column 4, lines 15-25), VF1 equals to power supply when voltage at the pad is less than power supply (column 4, lines 40-45)) as called for in claims 1-2.

Regarding claim 7, the controller (120, 140 and 160) turning off the pull up transistor when a high voltage is applied to the input pad (when voltage at the pad is higher than power supply, MP10 is off. See column 4, lines 11-25), and turning on the pull up transistor in the case where a voltage less than the high voltage is applied to the input pad (when voltage at the pad is less than power supply, MP10 is on. See column 4, lines 11-25).

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Allowable Subject Matter

5. Claims 3-4 and 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

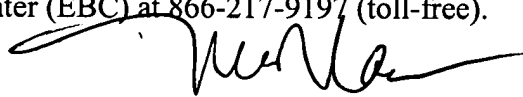
Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan T. Lam
Primary Examiner
Art Unit 2816

6/8/2004